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eCommerce: Oracle B2B 11g

Krishnaprem Bhatia
Principal Product Manager
SOA Suite Product Management
Agenda

- **eCommerce**
  - What is eCommerce?
  - What does it represent and what are the requirements?
  - What is Oracle B2B?
  - Why Oracle B2B and SOA Suite?
  - Implementation of end-to-end eCommerce business processes

- **Oracle B2B**
  - Document Management
  - Transport and Exchange Management
  - Trading Partner Management
  - Reports and Monitoring
  - System Management
eCommerce

What is eCommerce?

- eCommerce, is the buying and selling of products or services over the Internet. It can take many forms and shapes one of which is Business-to-Business (B2B)
  - It represents
    - Mature business documents
    - Classic business processes
    - Industry tempered Messaging Services
  - It requires
    - A Unified Business Process Platform
    - End-to-End Instance Tracking
    - Visibility and Auditing
    - Integrated Process Intelligence
    - Process and Service Governance, & Consolidated Security
- An enterprise extends its business processes over the Internet enabling commerce with its Trading Partners is B2B
eCommerce
What is Oracle B2B?

Oracle B2B is an eCommerce gateway enabling the secure & reliable exchange of business documents between trading partners

- Oracle B2B enables:
  - Business Document normalization (translation)
  - Document, transport and exchange standards
  - Security
  - Trading Partner Management

- The SOA Suite enables:
  - A Unified Business Process Platform
  - End-to-End Instance Tracking, Visibility and Auditing
  - Integrated Process Intelligence
  - Process and Service Governance
  - Consolidated Security

Oracle B2B + SOA Suite enables all of the eCommerce requirements
Architecture

Business Integration

Oracle B2B the “Edge component”
- Document Management
- Transport and Exchange Management
- Partner Management
- Reports and Monitoring
- System Management

SOA Suite the “Infrastructure”
- Business Process Platform
- End-to-End Tracking, Visibility & Auditing
- Process Intelligence
- Process and Service Governance
- Consolidated Security
Oracle B2B
Manages Partner interaction
- Messaging Services
- Transports
- Security
- Document Validation
- Document Translation

Oracle Service Bus
(Enterprise ESB)
- Document transformation
- Document Routing
- Code conversions

Composite
- Mediator (Composite ESB)
  - Document Transformation
  - Document Routing
  - Code Conversions
- BPEL Process Manager
  - Process choreography
  - Error Handling
- Business Rules
  - Policies
  - Constraints
  - Computations
  - Reasoning
- Human Tasks
  - Work list tasks
  - Forms

Application
- Document processing

Oracle Service Bus
Applications / Devices

Partner

Oracle B2B

Applications / Devices

Oracle Service Bus
Platform: Oracle B2B

Typical Setup

Oracle B2B utilized the standard configuration recommended by WebLogic Server. It is a:

- HTTP Client
- FTP Client
- Mail Client
- MLLP Client & Server
- TCP/IP Client & Server
Oracle B2B:
The edge component
## B2B Concepts

### eCommerce: Levels

Typically a transaction is a single document

<table>
<thead>
<tr>
<th>Levels</th>
<th>Question to Ask</th>
<th>Shipping Analogy</th>
<th>eCommerce protocol example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document</td>
<td>What is the item ?</td>
<td>Cell Phone</td>
<td>EDI, HL7, HIPAA, UCCnet, OAG, UBL, cXML, xCBL, RosettaNet,…</td>
</tr>
<tr>
<td>Packaging</td>
<td>How is the item packaged ?</td>
<td>Box, bubble wrap</td>
<td>MIME, SMIME, XMLDSig, XMLEncrypt</td>
</tr>
<tr>
<td>Transport</td>
<td>How is the item sent / received ?</td>
<td>Truck, Ship, Plane</td>
<td>HTTP, HTTPs, File, FTP, FTPs, sFTP, TCP/IP, SMTP, IMAP, POP3, MLLP</td>
</tr>
<tr>
<td>Messaging Service</td>
<td>Who is the carrier ?</td>
<td>DHL, FedEx, UPS, USPS</td>
<td>RNIF, AS1, AS2, ebMS</td>
</tr>
<tr>
<td></td>
<td>What carrier services are required ?</td>
<td>Requirements:</td>
<td>Requirements:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Signed receipt</td>
<td>• Digital Signing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Overnight / next day</td>
<td>• Time to Acknowledge / Respond</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Delivery attempts</td>
<td>• Retry Counts</td>
</tr>
<tr>
<td>Profile</td>
<td>What are the Trading Partners’ capabilities ?</td>
<td>What are the sender’s / receiver’s capabilities ?</td>
<td>Trading Partner Profile</td>
</tr>
<tr>
<td>Agreement</td>
<td>What did we agree ?</td>
<td>What did we agree ?</td>
<td>Trading Partner Agreement</td>
</tr>
</tbody>
</table>
There are five categories of acknowledgements

<table>
<thead>
<tr>
<th>Category</th>
<th>Shipping Analogy</th>
<th>Managed</th>
<th>eCommerce Protocol</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>Destination exists</td>
<td>Automatic</td>
<td>HTTP</td>
<td>Codes: 200 / 400</td>
</tr>
<tr>
<td>Messaging Service</td>
<td>Item arrived</td>
<td>In channel setting</td>
<td>RNIF</td>
<td>Receipt Acknowledgement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AS1, AS2</td>
<td>Message Disposition Notification (MDN)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ebMSN</td>
<td>Receipt Acknowledgement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Web Services</td>
<td>WS-Reliable Message Sequencing</td>
</tr>
<tr>
<td>Functional</td>
<td>Item not damaged</td>
<td>Auto Generated /Consumed</td>
<td>X12</td>
<td>Functional Acknowledgment (997)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>UN/EDIFACT</td>
<td>Message Syntactically Ack. CONTRL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OAG</td>
<td>Confirm Business Object Documents (BOD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RosettaNet</td>
<td>Receipt Acknowledgment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HL7</td>
<td>Acknowledgment</td>
</tr>
<tr>
<td>Business</td>
<td>Item shipped back</td>
<td>Correlation</td>
<td>Confirmation</td>
<td>A Business Response (PIP3A4)</td>
</tr>
<tr>
<td>Process</td>
<td>Item not processed</td>
<td>Modeled</td>
<td>RN PIP0A1</td>
<td>Notification of Failure (NoF)</td>
</tr>
</tbody>
</table>
Oracle B2B

What does it do?

Oracle B2B enables the secure and reliable exchange of messages between an enterprise and its trading partners, enabling:

- Document Management
- Transport and Exchange Management
- Trading Partner Management
- Reports and Monitoring
- System Management
Facilities to manage document standards enabling:
Definition, validation, translation, identification, correlation, batching, routing, envelope generation

Example:

Document Protocol: **Custom**
- Category of documents

Document Revision: 1.0
- Grouping of documents
- Envelope information

Document type: **PurchaseOrder**
- Identification information

Document Definition: **PurchaseOrder_def**
- Definition, correlation and routing
The translator

• A robust translation and validation engine that is an integral part of Oracle B2B.

This provides:

• A library of ALL EDIFACT, X12, X12N, HL7, HIPAA, EANCOM, NCPDP, …
• Data file validation
• Data Migration
• Tests data generation
• De-Identification
• Dictionary generation
• Batching
# Oracle B2B

**Documents | Transports | Exchanges | Features**

<table>
<thead>
<tr>
<th>Document Support</th>
<th>Document Support</th>
<th>Transports</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>• HL7</td>
<td>• xCBL</td>
<td>• MLLP</td>
<td>• EDI Batching</td>
</tr>
<tr>
<td>• CDS / CRS</td>
<td>• cXML</td>
<td>• TCP/IP</td>
<td>• Auto management of Acknowledgements</td>
</tr>
<tr>
<td>• HIPAA</td>
<td>• UBL</td>
<td>• Oracle AQ</td>
<td></td>
</tr>
<tr>
<td>• External code list</td>
<td>• eHR-XML</td>
<td>• JMS</td>
<td></td>
</tr>
<tr>
<td>• X12N</td>
<td>• papiNet</td>
<td>• FTP</td>
<td></td>
</tr>
<tr>
<td>• Healthcare</td>
<td>• 1Sync</td>
<td>• FTPs</td>
<td></td>
</tr>
<tr>
<td>• Life &amp; Annuity</td>
<td>• ebXML</td>
<td>• sFTP</td>
<td></td>
</tr>
<tr>
<td>• Property &amp; Casualty</td>
<td>• STAR</td>
<td>• HTTP</td>
<td></td>
</tr>
<tr>
<td>• NCPDP</td>
<td>• RosettaNet</td>
<td>• HTTPs</td>
<td></td>
</tr>
<tr>
<td>• Telecom</td>
<td>• CIDX / PIDX</td>
<td>• SMTP</td>
<td></td>
</tr>
<tr>
<td>• Batch</td>
<td>• VDA</td>
<td>• IMAP</td>
<td></td>
</tr>
<tr>
<td>• Script</td>
<td>• EANCOM</td>
<td>• POP3</td>
<td></td>
</tr>
<tr>
<td>• CCD</td>
<td>• EDIFACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• ASTM CCR</td>
<td>• EDIFICE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• NSF</td>
<td>• EDIEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• DICOM</td>
<td>• ISA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Positional files</td>
<td>• X12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Flat files</td>
<td>• X12F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• W3C XML Schema</td>
<td>• TDDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• UB92</td>
<td>• UCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• OAGIS</td>
<td>• WINS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• VICS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Security</th>
<th>Performance</th>
<th>Usability</th>
<th>Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Central Mgmt</td>
<td>• Enhanced throughput</td>
<td>• Enhanced UI design</td>
<td>• Enhanced Reports</td>
</tr>
<tr>
<td>• SSO</td>
<td>• Large document support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Document Provisioning</td>
<td>• Metrics Reports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Document Obfuscation</td>
<td>• EM Integration</td>
<td></td>
</tr>
</tbody>
</table>
Transport / Exchange Management

Delivery Channel

Defines the protocol, transport parameters, channel attributes, exchange parameters, & security

Example:

- Headers, proxies, signing, encryption, compression, sync/async, acknowledgments, retry intervals, retry counts, ..

• Types of Delivery Channels
  • Partner Channel  To communicate to Partner  - In the agreement
  • Host Channel    To communicate to the Host  - In the agreement
  • Listening Channel  To communicate to the Host  - NOT in the agreement

• Internal communication
  • By default Oracle B2B communicates to a composite in memory
    Any Host or Listening Delivery Channel can be designated as internal
Transport / Exchange Management
Facilities to communicate

Enabling secure and reliable messaging

- **Transports**
  - MLLP, TCP/IP
  - Oracle AQ, JMS,
  - FTP, FTPs, sFTP
  - HTTP / HTTPs
  - SMTP, IMAP, POP3

- **Messaging Services**
  - AS1, AS2
  - ebMS
  - RNIF
Facilities to define the Partner & Agreement

- Partner Types
  - Host
  - Partner
- Partner Capabilities
  - Profile
  - Users
  - Documents
  - Channels
- Agreements:
  - What Partner
  - What Document / Flow
  - What Delivery Channel
  - What Identification
  - What Callout (optional)
## System Management
### Managing Oracle B2B

**Facilities to manage Oracle B2B**

<table>
<thead>
<tr>
<th>Category</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deploy</strong></td>
<td>Monitor / Query / Deployed Agreements</td>
</tr>
<tr>
<td><strong>Manage Deployments</strong></td>
<td>Manage Deployment states</td>
</tr>
<tr>
<td><strong>Types</strong></td>
<td>Create Partner identifiers &amp; contacts</td>
</tr>
<tr>
<td><strong>Import / Export</strong></td>
<td>Metadata: Repository / Agreement</td>
</tr>
<tr>
<td><strong>Schedule Batch</strong></td>
<td>Schedule / Query: EDI Batching</td>
</tr>
<tr>
<td><strong>Manage Batch</strong></td>
<td>Query / Manage: EDI Batching</td>
</tr>
<tr>
<td><strong>Callouts</strong></td>
<td>Define java callouts &amp; parameters</td>
</tr>
<tr>
<td><strong>Purge</strong></td>
<td>Purge Design / Instance data</td>
</tr>
<tr>
<td><strong>Listening Channels</strong></td>
<td>Define Host Listening Channels</td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td>Define System Parameters</td>
</tr>
</tbody>
</table>
Reports and Monitoring
Oracle B2B Reports & Metrics

• Reports
  • Application Message
    What was sent or received to middleware
  • Business Message
    The translated message
  • Error Message
    Processing Errors
  • Wire Message
    What was sent or received to Partner
  • Conversation
    Correlation of Messages

• Metrics
  Statistics
System Management
BAM, FMW Console, WLS Console

- **Business Activity Monitoring**
  - Monitor business processes & services in real-time
  - Analyze events as they occur through complex event processing
  - Act on current conditions either automatically or manually

- **Oracle Enterprise Manager 11g: Fusion Middleware Console**
  - Manage composites, components
  - Modify properties
  - View log files & View end-to-end flow
  - Manage B2B endpoints

- **Oracle WebLogic Server 11g: Administration Console**
  - Manage environment
  - Manage services
Web Services

Access to pages
http://jshutchi-us:8001/b2b/services

- **OutboundService**: Submit a message to Oracle B2B
  - Input: Trading Partner, Payload
  - Response: If the message was successfully transmitted

- **TranslateService**: Translate XML (xData) to native format
  - Input: Document Information, Payload
  - Response: Translated Message

- **IsTPASetupService**: Is Trading Partner Agreement Setup
  - Input: Document Information, Action
  - Response: Number of deployed active agreements

- **GetTPAConfigService**: Partner Agreement Information
  - Input: Document Information, Action
  - Response: Agreement Information
Command Line Utilities

Administration | Self Service | Resubmission | CPA/CPP

**Administration**
- Purge
- Import
- Export
- Deploy
- Validate
- Activate
- Deactivate
- Restart B2B
- … and more

**New features**

**Self Service**
- A Self-Service command-line utility enabling the definition of Documents, Partners and Agreements

**Resubmission**
- A command-line message resubmission utility

**ebXML CPA/CPP**
- Generates a B2B metadata file to/from a cpa.xml
Oracle B2B: Business Integration Roadmap

**Initial Release**
- Bundled with OAS 10g

**General**
- Weblogic Server,
- Bundled with SOA Suite
  - AIA PIPs
  - Security
  - Central Mgmt, SSO, Role Based access, document provisioning

**Performance**
- Enhanced throughput
- Large doc support

**Usability**
- Enhanced UI design

**Visibility**
- Enhanced Reports, Metrics,
- Enterprise Manager Integration

**Functionality**
- Partner Cloning
- Auto-Agreement Generation
- Enhance Channel Management

**CY 2004**
- 10g

**CY 2009**
- 11gR1

**Healthcare FastPath**
- Healthcare based UI with concepts / terminology
- Streamlined configuration
- Enhanced jDev Integration

**Vertical FastPaths**
- AIA PIPs
  - Fusion Apps Platform

**Oracle Solutions**
- Embedding
- Performance
- Manage File Transfer
- Visibility
- Enhanced Dashboards, Reports, Monitoring
- Functionality
- Self-Service
- Enhanced VAN Support
- Hub Support
- Documents & Delivery
- Enhanced Web Services
- Document Splitting

**CY 2011**
- 11gR1 PS4 / 12g
- 12g

**Healthcare**
- Healthcare based UI with concepts / terminology
- Streamlined configuration
- Enhanced jDev Integration

**Functionality**
- Scheduling Partner Downtime
  - CPA/CPP Support
  - Any to Any Mapper
  - HL7 Batching

**Implementation**
- Enhanced VAN Support
- Hub Support
- Documents & Delivery
- Enhanced Web Services
- Document Splitting
For more information

Oracle B2B

Fusion Middleware

Service-Oriented Architecture
http://www.oracle.com/technologies/soa/index.html
Acronyms

- Java Messaging Service (JMS)
- Oracle Advanced Queue (AQ)
- File Transport Protocol (FTP / FTPs / sFTP)
- Hypertext Transfer Protocol (HTTP / HTTPs)
- Simple Mail Transfer Protocol (SMTP)
- Internet Message Access Protocol (IMAP)
- Post Office Protocol (POP3)
- Minimum Lower Layer Protocol (MLLP)
- Transmission Control Protocol/Internet Protocol (TCP/IP)
- Applicability Statement 1 (AS1)
- Applicability Statement 2 (AS2)
- ebXML Messaging Services (ebMS)
- RosettaNet Implementation Framework (RNIF)
- ebXML Collaboration Protocol Profile and Agreement (CPPA)
- ebXML Registry Information Model (RIM)
- ebXML Registry Services (RS)
- ebXML Business Process (ebBP)
- ebXML Core Components (ebCC)
Questions